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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEAD, JOHNSON & KACHIGIAN			KAY, MARY ANNE	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/598,886	HENTSCHEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MARY ANNE KAY	2426	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 September 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 14 September 2006 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>4/18/2007</u> .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

1. Claims 1- 16 are pending in this application.

### **“Medium” Interpretation**

2. From the specification, the Examiner has determined that the Applicant in accordance with statutory requirements, does not define “medium”. The Examiner interprets the term “medium” to be a computer readable medium (hardware disk) that stores computer instructions. However, at C1:9-10 Applicant refers to “a corresponding processing device allowing to carry out said method...” Examiner interprets this statement to imply that a computer readable medium is included in the invention.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sung et al. (U.S. Patent 7,526,028, referred to as **Sung**) in view of Shen et al. 2003/0161401 A1, referred to as **Shen**).

**Claim 1**

**Sung** teaches:

allocating a predetermined budget to the method in order to enable operating the method at a given level of scalability (**Sung** C3:38-45);  
measuring a so-called progress that takes into account the data that have been processed (**Sung** C6:63-C7:39);  
measuring at least one media processing specific resource used during operation of the method (**Sung** C4:54-59);  
on the basis of regulation parameters consisting of said allocated budget and said measurements, performing a load regulation by allocating modified resources for media signal processing (**Sung** C8:11-45).

**Sung** fails to teach:

requesting a resource to provide a plurality of system outputs.

**Shen** teaches:

requesting a resource to provide a plurality of system outputs (**Shen** Abstract;  
Examiner's Note: Input data are received from a source).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the inputs as taught by

**Shen** providing input to develop fast and efficient transcoding methods to reduce the load on computational resources.

***Claim Rejections - 35 USC § 103***

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of Song (U.S. PGPub 2004/0013200 A1, referred to as **Song**).

**Claim 2**

**Sung** teaches:

in which said regulation parameters are adapted within a frame (**Sung** C10:48-55).

**Sung** fails to teach:

a frame with regular borders.

**Song** teaches:

a frame with regular borders (**Song** ¶ 0013; EN: Frames borders used to determine block inside and outside of frame).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the frame borders as taught by **Song** providing the regulation is performed on a stable frame.

***Claim Rejections - 35 USC § 103***

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of Corley et al. (U.S. Patent 7,103,668, referred to as **Corley**).

**Claim 3**

**Sung** teaches:

in which said regulation parameters are adapted within a frame (**Sung** C10:48-55).

**Sung** fails to teach:

a frame subdivided into segments in a regular grid, a separate budget being allocated to at least one of said segments

**Corley** teaches:

a frame subdivided into segments in a regular grid, a separate budget being allocated to at least one of said segments (**Corley** Fig. 8, el. 800; C15:65-C17:21; EN: Each segment is motion processed).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the frame segments as taught by **Corley** providing the precision with which motion detection is desired is by the number of blocks used to subdivide the frame.

#### **Claim 4**

**Sung** teaches:

in which said regulation parameters are adapted within a frame (**Sung** C10:48-55).

**Sung** fails to teach:

a frame subdivided into segments in a regular grid, a separate budget being allocated to each of said segments on the basis of content dependent segment properties

**Corley** teaches:

a frame subdivided into segments in a regular grid, a separate budget being allocated to each of said segments on the basis of content dependent segment properties (**Corley** Fig. 8, el. 800; C15:65-C17:21; EN: Examiner interprets the subset of the frame is as content dependent).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the frame segment allocation as taught by **Corley** providing the precision with which motion detection is desired is by the number of blocks used to subdivide the frame.

#### ***Claim Rejections - 35 USC § 103***

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of Coleman (U.S. PGPub 2004/0042547 A1, referred to as **Coleman**).

#### **Claim 5**

**Sung** teaches:

in which said regulation parameters are adapted within a frame (**Sung** C10:48-55).

**Sung** fails to teach:

a frame subdivided into irregular parts, a specific budget being allocated to each of said irregular parts

**Coleman** teaches:

a frame subdivided into irregular parts, a specific budget being allocated to each of said irregular parts (**Coleman** ¶¶ 0060-0064; EN: Motion processing performed on regular or irregular parts of the frame).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the frame subdivided into irregular parts as taught by **Coleman** providing for different block sizes depending on the size of the entire image.

#### ***Claim Rejections - 35 USC § 103***

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of **Vincze** (U.S. Patent 6,369,727, referred to as **Vincze**) in further view of **Schreiber** (U.S. Patent 5,127,021, referred to as **Schreiber**).

#### **Claim 6**

**Sung** teaches:

one variable parameter of said scalable(s) function(s) (**Sung** C10:48-55).

**Sung** fails to teach:

a regulation device consisting of a feedback control loop provided for dynamically changing the resource needs of the system as a function of a so-called deviation;

calculated by means of a computation of the difference between expected and real usage during an assigned period.

**Vincze** teaches:

a regulation device consisting of a feedback control loop provided for dynamically changing the resource needs of the system as a function of a so-called deviation (**Vincze** C9:5-23; EN: Correlation made between a voltage feedback loop and changing the resource needs with feedback).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the feedback as taught by **Vincze** providing a solution by providing an output level stabilized at the level desired for level regulation of the resources.

**Sung** view of **Vincze** fails to teach:

calculated by means of a computation of the difference between expected and real usage during an assigned period.

**Schreiber** teaches:

calculated by means of a computation of the difference between expected and real usage during an assigned period (**Schreiber** C18:56-60).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** in view of **Vincze** with the

difference as taught by **Schreiber** providing the residual signal predicting the sample values of each frame of a video signal from its previous history.

***Claim Rejections - 35 USC § 103***

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of Wittebrood et al. (U.S. PGPub 2005/0180506 A1, referred to as **Wittebrood**) in further view of MacInnis et al. (U.S. PGPub 2003/0058365 A1, referred to as **MacInnis**).

**Claim 7**

**Sung** teaches:

on the basis of regulation parameters consisting of said allocated budget and said measurements, performing a load regulation by allocating modified resources for said media signal processing (**Sung** C8:11-45).

**Sung** fails to teach:

requesting a resource to provide a plurality of system outputs in the form of a given number of estimated motion vector candidates allocating a predetermined budget per frame in order to enable operating at a defined quality level;

measuring a so-called progress that takes into account the data that have been processed;

measuring the resource used during operation of the method.

**Wittebrood** teaches:

requesting a resource to provide a plurality of system outputs in the form of a given number of estimated motion vector candidates allocating a

predetermined budget per frame in order to enable operating at a defined quality level (**Wittebrood** ¶¶ 0002-0004); measuring the resource used during operation of the method (**Wittebrood** ¶ 0023).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the resource allocation and measurement as taught by **Wittebrood** providing a motion estimation unit for estimating a current motion vector for a group of pixels of an image.

**Sung** fails to teach:

measuring a so-called progress that takes into account the data that have been processed.

**MacInnis** teaches:

measuring a so-called progress that takes into account the data that have been processed (**MacInnis** ¶¶ 0006, 0034).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the progress measurement as taught by **MacInnis** providing progress measured by the display rate at the output of the system.

***Claim Rejections - 35 USC § 103***

10. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of **Wittebrood** in further view of **MacInnis** in further view of **Schreiber**.

**Claim 8**

**Sung** teaches:

performing a regulation of the load of said motion estimator on the basis of said difference and said measurement (**Sung** C8:11-45).

**Sung** fails to teach:

estimating a given number of estimated motion vector candidates;  
allocating a predetermined budget per frame to enable operating at a defined quality level;  
measuring a so-called progress taking into account the data that has been processed;  
weighting the target number of vector candidates with said progress;  
determining the difference between the given number of vector candidates at the output of the motion estimator and the weighted target number of vector candidates;

**Wittebrood** teaches:

estimating a given number of estimated motion vector candidates (**Wittebrood** ¶ 0016);  
allocating a predetermined budget per frame to enable operating at a defined quality level (**Wittebrood** ¶¶ 0003-0004).

determining the difference between the given number of vector candidates at the output of the motion estimator and the weighted target number of vector candidates (**Wittebrood** ¶¶ 0042-0057);

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the estimation and resources as taught by **Wittebrood** providing a motion estimation unit for estimating a current motion vector for a group of pixels of an image.

**Sung** fails to teach:

measuring a so-called progress taking into account the data that has been processed.

**MacInnis** teaches:

measuring a so-called progress taking into account the data that has been processed (**MacInnis** ¶¶ 0006, 0034).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the progress measurement as taught by **MacInnis** providing progress measured by the display rate at the output of the system.

**Sung** fails to teach:

weighting the target number of vector candidates with said progress.

**Schreiber** teaches:

weighting the target number of vector candidates with said progress (**Schreiber** C8:10-13).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the weighting as taught by **Schreiber** providing representation of the relative importance mathematically to the processed vectors.

### **Claim 9**

**Sung** fails to teach:

in which said progress is determined by a ratio;  
a number of processed block lines and the total number of block lines in a frame.

**MacInnis** teaches:

in which said progress is determined by a ratio (**MacInnis** ¶ 0034);  
a number of processed block lines and the total number of block lines in a frame (**MacInnis** ¶ 0006).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the ratio and line number inputs as taught by **MacInnis** providing progress measured by the display rate at the output of the system.

### **Claim 10**

**Sung** fails to teach:

in which said regulation parameter is a block-hopping threshold affecting the number of vector candidates to be tested.

**Wittebrood** teaches:

in which said regulation parameter is a block-hopping threshold affecting the number of vector candidates to be tested (**Wittebrood** ¶ 0019).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the block-hopping threshold as taught by **Wittebrood** providing a drastic reduction in the amount of calculations necessary for motion estimating.

### Claim 11

**Sung** fails to teach:

a computer system for performing a method according to claim 8.

**Wittebrood** teaches:

a computer system for performing a method according to claim 8 (**Wittebrood** ¶ 0066).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the computer system as taught by **Wittebrood** providing conventional functions known in the art, yet with several distinct hardware additions may function as the motion estimator.

### Claim 12

**Sung** fails to teach:

a computer program product comprising program code means stored on a computer readable medium for performing a method according to claim 8 when the computer program is run on a computer.

**Wittebrood** teaches:

a computer program product comprising program code means stored on a computer readable medium for performing a method according to claim 8 when the computer program is run on a computer (**Wittebrood** ¶ 0058).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the program code as taught by **Wittebrood** providing the control procedures of the motion estimating operations.

#### ***Claim Rejections - 35 USC § 103***

11. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of **Wittebrood** in further view of **MacInnis** in further view of **Schreiber**.

#### **Claim 13**

**Sung** teaches:

control means, provided for changing a regulation parameter of the load of the motion estimator on the basis of said difference (**Sung** C8:11-45).

**Sung** fails to teach:

motion estimating means, provided for delivering a given number of vector candidates;

allocating means, provided for defining a predetermined budget per frame to enable operating at a defined quality level;

computing means, provided for determining the difference between the real number of vector candidates at the output of the motion estimator and the weighted target number of vector candidates;

measuring means, provided for calculating a so-called progress determined by a ratio between a number of processed block lines and the total number of blocks lines in a frame;

weighting means, provided for weighting the target number of vector candidates with said progress.

**Wittebrood** teaches:

motion estimating means, provided for delivering a given number of vector candidates (**Wittebrood ¶¶ 0002-0004**);

allocating means, provided for defining a predetermined budget per frame to enable operating at a defined quality level (**Wittebrood ¶¶ 0002-0004**);

computing means, provided for determining the difference between the real number of vector candidates at the output of the motion estimator and the weighted target number of vector candidates (**Wittebrood ¶¶ 0042-0057**).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the motion estimating, resource allocating and computing as taught by **Wittebrood** providing a motion estimation unit for estimating a current motion vector for a group of pixels of an image.

**Sung** in view of **Wittebrood** fails to teach:

measuring means, provided for calculating a so-called progress determined by a ratio between a number of processed block lines and the total number of blocks lines in a frame.

**MacInnis** teaches:

measuring means, provided for calculating a so-called progress determined by a ratio between a number of processed block lines and the total number of blocks lines in a frame (**MacInnis** ¶¶ 0006, 0034).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** in view of **Wittebrood** with the progress measurement as taught by **MacInnis** providing progress measured by the display rate at the output of the system.

**Sung** in view of **Wittebrood** in further view of **MacInnis** fails to teach:

weighting means, provided for weighting the target number of vector candidates with said progress.

**Schreiber** teaches:

weighting means, provided for weighting the target number of vector candidates with said progress (**Schreiber** C8:10-13);

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** in view of **Wittebrood** in further view of **MacInnis** with the weighting as taught by **Schreiber** providing representation of the relative importance mathematically to the processed vectors.

#### **Claim 14**

**Sung** fails to teach:

a motion estimator in which said regulation parameter is a block-hopping threshold affecting the number of vector candidates to be tested.

**Wittebrood** teaches:

a motion estimator in which said regulation parameter is a block-hopping threshold affecting the number of vector candidates to be tested (**Wittebrood** ¶ 0019).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the block-hopping threshold as taught by **Wittebrood** providing a drastic reduction in the amount of calculations necessary for motion estimating.

***Claim Rejections - 35 USC § 103***

12. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sung** in view of Scognamiglio et al. (U.S. Patent 6,847,738, referred to as **Scognamiglio**).

**Claim 15**

**Sung** fails to teach:

requesting a resource to provide a plurality of system outputs in the form of a given number of block activities and associated decisions;  
allocating a predetermined budget per frame in order to enable operating at a defined quality level;  
measuring a so-called progress that takes into account the data that have been processed;  
measuring the resource used during operation of the method on the basis of regulation parameters consisting of said allocated budget and said measurements, performing a load regulation by allocating modified resources for said media signal processing.

**Scognamiglio** teaches:

requesting a resource to provide a plurality of system outputs in the form of a given number of block activities and associated decisions (**Scognamiglio Abstract**);  
allocating a predetermined budget per frame in order to enable operating at a defined quality level (**Scognamiglio C5:15-22**);

measuring a so-called progress that takes into account the data that have been processed (**Scognamiglio** C14:28-55);

measuring the resource used during operation of the method on the basis of regulation parameters consisting of said allocated budget and said measurements, performing a load regulation by allocating modified resources for said media signal processing (**Scognamiglio** C17:27-63).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the method as taught by **Scognamiglio** providing emphasis on the details of a scene so as to make it more visible to a human viewer or to aid some machine performance (e.g., object identification), and at the same time, reducing noise or, at least, avoiding its amplification.

### **Claim 16**

**Sung** fails to teach:

a sharpness enhancement device.

**Scognamiglio** teaches:

a sharpness enhancement device (**Scognamiglio** C1:6-7).

Rationale:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of **Sung** with the device as taught by **Scognamiglio** providing emphasis on the details of a scene so as to make it

more visible to a human viewer or to aid some machine performance (e.g., object identification), and at the same time, reducing noise or, at least, avoiding its amplification.

### ***Examination Considerations***

13. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969) (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

14. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior

Art Unit: 2426

art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

15. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent *prima facie* statement.

16. Examiner's Opinion: ¶¶ 13.-15. apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

### ***Conclusion***

17. The prior art of record and not relied upon is considered pertinent to Applicant's disclosure.

- Suzuki et al., U.S. PGPub 2001/0019558 A1 I
- Wetherall et al., U.S. PGPub 2005/0018608 A1 I
- Saed, U.S. PGPub 2005/0100319 A1 I
- Kokubo et al., U.S. PGPub 2008/0049831 A1 I
- Jung, U.S. Patent 5,502,492 A I
- Savatier, U.S. Patent 5,508,744 A I
- Hwang, U.S. Patent 5,781,249 A I
- Elwalid et al., U.S. Patent 5,978,359 A I

Art Unit: 2426

- Chen et al., U.S. Patent 6,160,850 A I
- Komiya et al., U.S. Patent 6,192,078 B1 I
- Itokawa, U.S. Patent 6,721,360 B1 I
- Weatheral et al., U.S. Patent 7,058,015 B1 I
- Lu et al., U.S. Patent 7,126,915 B1 I

18. Claims 1-16 are rejected.

***Correspondence Information***

19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to MARY ANNE KAY whose telephone number is (571)270-5677. The Examiner can normally be reached on Monday - Friday, 8:00 AM - 5:00 PM, EST.

As detailed in MPEP 502.03, communications via Internet e-mail are at the discretion of the Applicant. Without a written authorization by Applicant recorded in the Applicant's file, the USPTO will not respond via e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. 122. A paper copy of such correspondence will be placed in the appropriate patent application. The following is an example authorization which may be used by the Applicant:

Notwithstanding the lack of security with Internet Communications, I hereby authorize the USPTO to communicate with me concerning any subject matter related to the instant application by e-mail. I understand that a copy of such communications related to formal submissions will be made of record in the applications file.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Hirl can be reached on (571)272-3685. Any response to this office action should be mailed to:

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or faxed to:

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Application/Control Number: 10/598,886  
Art Unit: 2426

Page 25

Mary Anne Kay  
Examiner

/Joseph P. Hirl/  
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